**Task 2**

Add to your framework the following features:

1. The ability to generate sinusoidal or cosinusoidal signals, the user should enter he wants cosine or sine, the amplitude A, the phase shift theta, the analog frequency, and the sampling frequency needed. (Hint: the sampling frequency chosen should obey the sampling theorem).
2. Removing the mean of the signal display the result.
3. The ability to quantize an input signal (its samples), the application should ask the user for the needed levels or number of bits available (in case of number of bits the application should compute from it the appropriate number of levels). Thereafter, the application should display the quantized signal and quantization error besides the encoded signal.